CHAPTER 9

Mind frames of teachers, school leaders, and systems

A major theme of this book and of *Visible Learning* is that the quality of teaching makes all the difference. Yes, it would be nice to have eager, well-groomed, invested students with financially gifted parents, but our neighbourhood schools must take all who walk through the gates. We could ask that students need to be 'ready' and motivated, and come to school well fed, having been supported at home to do their homework, and are attentive and calm. This would be wonderful, but a major role of schooling is to help students to acquire these habits; we should not discriminate against students whose parents may not know how to help them to do so. We could remonstrate about the quality of teacher selection, preparation, promotion and so on – but the chances of making differences in these matters has thwarted so many for so long with little evidence of change. These issues are important, but history has shown that resolving them has not made much difference to student learning to the degree that is required. For example, there is not a lot of evidence that improving teacher education colleges has improved the overall quality of teaching (but, of course, this is not to say that we should stop trying to find better ways in which to educate teachers to have these impacts). We have used tests to measure the surface knowledge and used these data to name, shame, and blame – and teachers have learnt to play this game – but playing the testing game even more smartly will not make the difference. We have spent billions on buildings, restructured curricula to align with tests and vice versa, and engaged in wonderful debates on the peripheries of what really makes the difference. We love to talk about the things that do not really matter. Perhaps the greatest resistance to change of the current system is that we have asked millions of teachers to improve this system – and they have applied their creative thoughts, and thus improved and sustained the current model far beyond its use-by date.

We know that the major source of controllable variance in our system relates to the teacher, and that even the best teacher has variability in the effect that he or she has on his or her students. The message in this book is that teachers, schools, and systems need to be consistently aware, and have dependable evidence of the effects that all are having on their students – and from this evidence make the decisions about how they teach and what they teach. The message is that the evidence is about student learning – particularly progress – provided that the learning intentions and success criteria are worthwhile,

challenging, and become meaningful to and understood by the students. It can be done – as is the case in so many classrooms around the world every day. Our role is to make this learning more transparent, so that it can be critical in driving decisions.

This chapter starts at the top of the system and asks what some of the implications are for the system level; it then asks what some of the implications are for school leaders and goes on to outline a model of change that may lead to the optimal impact on student learning. Finally, it elaborates on the all-important, key, underlying mind frames suggested for all. It is these mind frames that need to pervade our thinking about teaching and learning, because it is these ways of viewing our world that then lead to the optimal decisions for the particular contexts in which we work.

A model for systems

One of the more powerful books that has influenced me is Ben Levin's *How to Change 5,000 Schools* (2008). Levin is not only a successful academic, but has also been a deputy minister for education in two Canadian provinces. He starts from the premise that the heart of school improvement rests in improving daily teaching and learning practices in schools, balanced with the notion that the school is the appropriate unit of evaluation – that is, that everyone in the school needs to collaborate to ensure that the daily teaching and learning practices are the focus of the school, and all are responsible for its success. This ties directly to the claim in this book that teachers and school leaders are fundamentally evaluators. It ties with claims that the culture of the school is the essence of sustained success. Elmore (2004) also reiterates this claim – that the school leaders are responsible for cultural changes in schools; they do not change by mandate, but by specific displacement of existing norms, structures, and processes by others – 'the process of cultural change depends fundamentally on modelling the new values and behaviours that you expect to displace the existing ones' (p. 11). It is about how the way in which we think leads to the changes that we want. It is about our mind frames in relation not only to having major impacts on students in our schools, but also knowing about the magnitude and nature of these impacts.

Improvements relate to building a collective capacity of teachers in a school to show success – not only in achievement, but also in making learning a valued outcome, by retaining students' interest in learning, in making students respect themselves and others, by recognizing and esteeming diversity, and by building community. Students are never 'owned' by a teacher, but by the school. Collectively, schools need to agree about the key knowledge, skills, and disposition to be learnt, to agree about how all will know the impact and effects of their teaching and the school on students (in a regular and dependable way), to have a specific person responsible for 'student success across the school', to have plans in place to identify when students are not learning or when they are excelling in learning, to ensure that all provide multiple opportunities to learn and to demonstrate learning, and most importantly to share errors, share successes, and constantly share the passion of teaching. Christine McAulliffe, the astronaut, summed up this underlying passion of teaching perfectly: 'I have touched the future: I teach.'

Levin calls for 'Lasting and sustaining improvement in student outcomes' – both in a broad range of important areas, but also in greatly reducing the gaps in outcomes among different populations, so that all in society can benefit from public education. He is clear about what does *not* work. It does *not* work to assume that:

- a single change can create improvement in a short time frame;
- a few strong leaders can force a school to improve by itself;
- simplistic application of incentives will be a successful strategy;
- the starting place is governance and policy;
- new curriculum and standards can, by themselves, foster betterment; and
- an accountability system with oodles of data will create improvement.

Instead, he argues for a balance between focusing on a few key outcomes that relate better teaching and learning (minimizing the distractions), putting effort into buildi capacity for improvement, building motivation by taking a positive approach, and increasi support for an effective, thoughtful, and sustained program of improvement – focusing the will (motivation) and skill. He advocates nine essential practices for improv outcomes:

- high expectations for all students;
- strong personal connections between students and adults;
- greater student engagement and motivation;
- a rich and engaging formal and informal curriculum;
- effective teaching practices in all classrooms on a daily basis;
- effective use of data and feedback by students and staff to improve learning;
- early support with minimum disruption for students in need;
- strong positive relationships with parents; and
- effective engagement with the broader community.

Within a school, we need to collaborate to build a team working together to solve th dilemmas in learning, to collectively share and critique the nature and quality of evidenc that shows our impact on student learning, and to cooperate in planning and critiquin lessons, learning intentions, and success criteria on a regular basis. Yes, this takes time t work together, but maybe less debate about other structural concerns (lower class size different tracking methods; professional development sessions not related to these debates could make way for financing more teacher planning and review time – together.

Michael Fullan (2011) also has written on choosing the right drivers for whole system reform. One of his major messages is that the right drivers are those that work directl on changing the culture so that students are achieving better measurable results.

> The glue that binds the effective drivers together is the underlying attitude, philosophy and theory of action. The mindset that works for whole system reform is the one tha inevitably generates individual and collective motivation and corresponding skills t transform the system.
>
> (Fullan, 2011: 5)

He identified four 'wrong' drivers: accountability (using test results to appraise, punish, o reward); promoting individual teacher and leadership solutions; assuming that technology

will carry the day; and fragmented strategies. His four 'right' drivers are: creating a powerful centrality of the learning–instruction–assessment nexus; using the group to accomplish this learning–instruction culture; going all out to power new teaching innovations with technology (not the other way around); and building systematic synergy between these first three drivers. These four drivers are among the core of the messages reiterated in this book, but to these we add a fifth: the system needs to provide resources to help schools to know their impact; those schools that have sufficient impact can then earn a degree of autonomy.

One of the roles of the system is to provide mandates about these matters, but also to provide resources to enable schools to efficiently know their impact. What is not suggested is more tests: schools are awash with tests and data that, in whatever language they are packaged, lead only to more summative than formative interpretations. Instead, what is requested are more formative interpretations. The asTTle package that we designed for schools in New Zealand was based on 'backward design' principles – that is, we started with the various interpretations that we considered teachers and schools should be making about their impact. We then devised interpretative reports that passed two tests: did the teachers accurately make the interpretations that we wanted them to make from the reports, and what were their consequences from interpreting the reports? When we started, it took us more than 80 focus groups to satisfy these two tests, but we become more efficient over time (see Hattie, 2010b). After creating seven reports, we then began to back-fill with items, but at all times gave teachers much control over the choice of tests – because one of the key aims of our reporting engine was to ensure that assessment related both to what the teacher was aiming to teach and to what the curriculum meant for this teaching. After initial exposure, it takes teachers a few minutes to set the parameters (for example, length of test, curricular objectives, difficulty of test, method [paper, on-screen, computer-adaptive], plus many other choices) and the linear programming engine takes about 7–10 seconds to build the optimal test from the 12,000+ calibrated items. Most importantly, upon completion, teachers get instant feedback about whom they taught well or not, about what, about their strengths and weaknesses, and so on. The system is voluntary, but the uptake is high in elementary and primary schools. Last year alone, over a million tests were sat (there are about 750,000 students in New Zealand), and the message is that teachers welcome feedback about their impact – provided that it relates to what they are teaching now, and provided that there is a lot of help offered in interpreting the measures. The reporting engine rarely shows a number (because numbers are often the stopping point for interpretation and consequences), is rich in detail while highlighting the main ideas, and has been used in many schools to help to drive teacher debates about their impact on students. The more pleasing use is by students, many as young as 7–9 years old, who can interpret the reports about their own learning, and know how to then create discussions with peers and teachers about 'Where to next?'.

The message is not to introduce more tests for accountability or 'predictive' means, but to introduce more resources to assist in the interpretation of formative information to allow school leaders, teachers, and students (and parents) to see 'learning in progress' and to concentrate more on 'Where to next?', in light of dependable information about where we are now.

New Zealand has now gone a step further, in that contracts for offering professional development in schools must demonstrate agreed effect size gains. This has meant a closer alignment of professional development, more coaching and less telling, a shared responsibility for professional development having an impact on students (and not only on teachers), and a renewed urgency to create more debates about learning. A lot of my own work is spent helping systems and schools to devise 'dashboards' of what success looks like and where on the pathway to this success is the school. The emphasis on a daily basis is more on progress and less on levels of proficiency, but the targets of proficiency are clearly exhibited in the dashboards. As always, the key component is providing quality evidence to create the right debates; the systems do not resolve the debates. Professional judgement is key and it is important to focus the accountability more on the overall teacher judgements that are made about progress. The two key questions here are: what is the quality of evidence that informs the teacher judgement, and what is the quality of the consequences for the teaching and learning from this evidence? Note that the attention is not on the data, not on reports of the data, but on the professional judgements and consequences of the key person in the student learning debate over whom we have some influence: the teacher. The sobering comment is that some schools do not like these debates about their impact – because it is easier not to know.

As has been noted, the reward is teachers knowing, in a dependable and public manner, the quality of their impact (see Amabile & Kramer, 2011), and the New Zealand system rewards schools that are engaging in their debates with 'earned or supported autonomy'. There is a quasi-inspection system (the Educational Review Office, or ERO), which visits schools and then provides a public report on the quality of the school in many aspects. If the inspection finds major evidence of schools having dependable systems about their impact and they are having positive impact, then the school earns a degree of autonomy – that is, inspection every four or five years; if not, the inspection is more frequent (in one case, every four months, and the ERO provides direction for these schools to improve knowing their impact). This is the focus that was referred to in early chapters: a focus on having dependable knowledge of the impact on student learning by evaluating and esteeming the quality of the teachers' professional judgements.

A model for school leaders

A major reason why teachers stay in a school or stay in teaching relates to the support by the school leaders so that teachers can have a positive impact. Think of reasons why a teacher would stay in teaching: teacher autonomy; leadership; staff relations; the nature of the students; facilities; and safety. The factor that explains the decision to stay or not – by a long way – relates to the nature of leadership (Boyd et al., 2011; Ladd, 2011). It is the leaders' motivation of teachers and students, identifying and articulating high expectations for all, consulting with teachers before making decisions that affect teachers, fostering communication, allocating resources, developing organizational structures to support instruction and learning, and regularly collecting and reviewing with teachers data on student learning. Learning leadership is the most powerful incentive to stay in teaching.

To give permission to teachers to engage in evaluating their impact and then using this evidence to enhance their teaching requires leaders who consider that this way of thinking and acting is valuable. The core lever with which to create schools that lead to enhanced impact is the leader's beliefs about his or her role. There are many ways in which we can consider how school leaders think and work. Two well-used ways are 'transformational' and 'instructional' leaders.

- *Transformational* leaders are attuned to inspiring teachers to new levels of energy and commitment towards a common mission, which develops the school's capacity to work together to overcome challenges and reach ambitious goals, and then to ensure that teachers have time to conduct their teaching.
- *Instructional* leaders attend to the quality and impact of all in the school on student learning, ensure that disruption to learning is minimized, have high expectations of teachers for their students, visit classrooms, and are concerned with interpreting evidence about the quality and nature of learning in the school.

Robinson, Lloyd, and Rowe (2008) conducted a meta-analysis comparing these two forms of leadership. Based on 22 studies and 2,883 principals, the impact of transformation leadership on student achievement was 0.11, whereas the impact of instructional leadership was 0.42. The effects were strongest on promoting and participating in teacher learning and development (0.84), establishing goals and expectations (0.42), planning, coordinating, and evaluating teaching and the curriculum (0.42), aligning resource selection and allocation to priority teaching goals (0.31), and then ensuring an orderly and supportive environment (0.27). The authors concluded that the reason for these enhanced effects is that transformational leaders are more focused on the relationship between leaders and teachers, and that the quality of these relationships is not predictive of the quality of student outcomes. In contrast, instructional leaders are more focused on the quality and impact of teaching in the school, and on building appropriate trust and a safe climate in which teachers can seek and discuss this evidence of impact.

These findings align with the fundamental argument in this book that leaders in schools (teachers, principals, boards) need to be fundamentally concerned with evaluation of the impact of all in the school. In schools that regularly have evidence of high levels of impact on students, the leadership can be more indirect in supporting teachers in their work towards higher levels of impact. Conversely, schools with lower levels of impact are more in need of direct leaders creating an orderly and safe environment, working directly with teachers in the school to set appropriate goals and expectations, and explicitly providing resources that help teachers to know their impact and to discuss the consequences for change to improve this impact (Bendikson, Robinson, & Hattie, 2011; Robinson, 2011).

The argument is that such instructional leaders can truly make the difference, and it is the beliefs and construction of their role that serves to make this difference and inspire all in their schools. The important distinction, however, is to move from the notion of 'instructional leaders' (which places too much emphasis on the instruction) to 'learning leaders' (which places the emphasis on student and adult learning). The focus is not 'Was it taught?' and 'How was it taught?', but 'Did students acquire essential knowledge and skills?', 'How do we know?', and 'How can we use that evidence of student learning to improve instruction?'

A key role of learning leaders is to construct the learning of the adults in the schools. There are features of teacher learning or professional development that we know have an impact on student achievement. Such features include coaching over an extended time, the use of data teams, a focus on how students learn subject matter content, and teachers working collaboratively to plan and monitor lessons based on evidence about how students learn in light of this planning (see Bausmith & Barry, 2011). Timperley, Wilson, Barrar, and Fung (2007) completed a synthesis of the effective professional development systems, and they promoted a five-step process (see also Timperley, 2012).

1. What knowledge and skills do our students need?
2. What knowledge and skills do we, as teachers, need?
3. How can we deepen our professional knowledge and refine our skills?
4. How can we engage students in new learning experiences?
5. What has been the impact of our changed actions?

The arguments in this book are aligned with this process – except that we work the oth way around. Instead, we *start* with discussions and evidence about the impact of our action and then move to the other dimensions.

The topic of staffroom conversation needs to move towards a collective understandir of the adult's effect on the students rather than the 'presentism', privacy, and personal pre erences that are so often the norm. This notion of 'presentism', coined by Jackson (1968 relates to the relative emphasis on current and immediate classroom needs, problems, an satisfactions instead of on long-term impact and plans. Jackson noted, as did Lortie (1975 the way in which teachers relied on their own independent observations of their studen to gauge how well they were doing, and that there was little significant sharing of commo understanding and techniques (see Hargreaves, 2010). Hence the importance of scho leaders creating an atmosphere of trust and collegiality to allow the debates to turn to th evidence of the effect on student learning – on a regular basis. It requires strong 'learnin leaders' to permit, encourage, and sustain the discussions on impact.

I witnessed one large high school begin this journey, during which the principal too some two or three years to convince teachers that the focus was on student learning an improving every student in the school. If there had been one whiff of accountability, th mood would have turned counter-productive. He provided a school-based reportin engine to help teachers to keep track of their effects on individual students, provide resources to help teachers to build graphs of the individual trajectories of all students fron the previous five years through to the end of the current year, at the start of the year create targets for the end of the year for each student based on these trajectories, and create time for teachers to meet to prepare common assessments and then monitor their individ ual effects on students. This led to rich conversations in which these teachers had engage and the school is now renowned for the quality of evidence about its success in raisin achievement.

I have worked closely with one elementary school, close to my home, over the pas eight years. The impact of these teachers is stunning, and every year I see their effect size of 1 and 2 for all students; well in excess of the $d = >0.40$ for which I am asking in thi book. I know the dedication, the commitment to each student in this school, the absolutel driven hard work that all put in at this school. Most critically, the group most committe to getting the effects are the students. Many of them know more about assessment thar university students. They know how to interpret assessments, know about standard error know how to set tests for themselves, and are constantly seeking answers to 'Where tc next?' The school impact is so well known that our prime minister frequently visits the school, and even brings international guests and other leaders to the school; it is one of the more impressive schools that I have visited. On my visits, the students interrogate me, have asked for improvements to the resources that we have provided, and exhibit so much pleasure in their 'known' success.

Developing a defensible model for change is important if the messages in this book are to be achieved. It is important to note that there is nothing new in this book or in *Visible Learning*. The messages and evidence are based on a study of prior literature, on what has worked successfully in so many classrooms. As noted in the introduction, there is no new program, no new acronym, no new 'Gee whiz, let's do this for a while!'; instead, it is a recognition of the critical importance of understanding how excellent teachers think! It is about change, leading to all teachers in the schools thinking in powerful ways about their role, their impact, and their collegiality in assisting all to have high expectations of success. It is about having multiple sources of evidence about impact on all students, and esteeming – and publicly and privatively valuing – this evidence of impact.

The good news is that teachers are often driven by having information about their impact. Amabile and Kramer (2011: 22) noted that 'of all the things that can boost emotions, motivation, and perceptions during a workday, the single most important is making progress in meaningful work'. They noted the power of catalysts (actions directly supporting work – especially from fellow workers) and nourishers (events – again especially from others – that show respect and words of encouragement). Negative influences include inhibitors (actions that fail to support or actively hinder work), and toxins (discouraging or undermining events). The notion of meaningful work for teachers, I would argue, is having positive impacts on students learning. Yes, some may see it more as getting through the curriculum, keeping kids busy until the bell rings, doing one's best . . . Effective school leaders, however, support teachers in their daily progress in this meaningful work, and thus set a positive feedback loop into motion. Amabile and Kramer (2011: 80) concluded that if leaders:

> facilitate their steady progress salient to them, and treat them well, they will experience the emotions, motivations, and perceptions necessary for great performance. Their superior work will contribute to organizational success. And here's the beauty of it: They will love their jobs.

Fullan (2012: 52) echoes this claim: 'It is the actual experience of being more effective that spurs them to repeat, and build on the behaviour.'

A model for change

Learning leaders need clear processes for implementing the mind frames outlined in this book. So often, we spend too much time on saying what leaders ought to be, ought to do, and ought to value; instead, we need to spend more time considering how to effectively create schools in which leaders are responsible for, allow, and encourage all to know about and have positive impacts on student learning. So many good ideas fail due to low levels of degree of implementation, fidelity, or dosage. Michael Barber (2008) has developed a most effective set of methods with which to accomplish successful delivery of such missions, unfortunately termed 'deliverology'. While there has been criticism of the policies that may have been introduced via this method, the method is the message. The following is based on the principles developed by Barber and it is worth reading more about them (because, of course, there is no one way in which to achieve 'deliverology' – see Barber, Moffit, & Kihn, 2011). There are four steps, as follows, to which I add a fifth.

a. Develop a foundation for delivery

1. *Define an aspiration.* In this case, that aspiration is knowing and valuing the impact that all in the school have on the learning of the students. The recommendation is: 'To ensure that all students gain at least $d = >0.40$ each year in this school on valued learning.' This also means that schools need to address some key prior questions: 'What do we want our students to learn?'; 'Why does that learning matter?'; 'What do you want your students to do or produce?'; 'How well do you want them to do it?'; 'How will you know how well the students are understanding?' (Gore, Griffiths, & Ladwig, 2004). *Know thy impact.*
2. *Review the current state of delivery.* As with all learning, knowing prior achievement and what the student brings to the class (from his or her culture, motivation, expectations) is critical for moving forward, and particularly for setting defensible and reasonable targets for enhancing student achievement. This step may entail a needs assessment and a review of current evidence (its quality, appropriateness for the mission, strengths and gaps), but also knowing about whether all in the school understand the delivery challenge and whether there is a culture of delivery.
3. *Build the delivery unit.* This is not about accountability methods or external imperatives, but about a commitment to action to achieve the aspiration. The unit is not necessarily the teachers or school leaders, but a small group responsible for ensuring delivery. The question arises: who is in charge of ensuring success in this school – that is, who is the 'dean of success'? Of course, the answer is 'everyone', but the delivery unit is more focused on ensuring that all systems are going to meet the targets. Barber recommends that the unit be small, reside outside the school hierarchy (because it must influence the school as well), and have time and sufficient resources to ensure delivery.
4. *Establish a guiding coalition that can remove barriers to change, influence and support the unit's work at crucial moments, and provide counsel and advice.* This does not need to be a formal group and may change in membership, with all aiming to help to ensure a maximum probability of success. The coalition is essential for developing the trust that is so important in school change.

b. Understand the delivery challenge

1. *Evaluate past and present performance.* What is the evidence most indicative of performance? How dependable and credible is this evidence to the teachers, school leaders, students, and parents (and whomever else)? What are the target indicators? What are the correlates of these target indicators, and the indicators of unintended consequences? Does the school share a program logic of how learning occurs in this school?
2. *Understand drivers of performance and relevant systems activities.* Do all in the school understand the drivers of student learning? Are they drivers over which they have some control? Are there mindsets that inhibit the impact that we need to have on learning (for example, 'Give me bright students and I can achieve'; 'But it is all about poverty and the home'; 'If they do not come to class prepared, that's not my fault'; 'We know

that Group X are underachievers and do not value education'), or do the teachers in the school see themselves as change agents, recognizing that all students can learn, that they can have marked positive impacts on all students, and that they are tasked primarily with knowing their impact on students?

c. Plan for delivery

1. *Determine your reform strategy.* Strategy is primarily the role of the school leader, and the role of the delivery leader is to inform this strategy. There is no magic formula, no program, and no quick way in which to achieve systematic, genuine, and identifiable impacts on student learning. Doing so requires all in the school to want to have this impact, to adopt theories of change that allow the best ways of getting there, to build capacity, capability, and culture, and to evaluate strategies. Remember: in education, everything works if $d = >0$ is desired; so evaluating strategy against the higher benchmark is required and removing some past practices that have met $d = >0$, but not $d = >0.40$, may be needed. This usually entails changing the way in which teachers see the nature, quality, and acceptability of evidence of their impact.
2. *Set targets and trajectories.* Setting challenging and defensible targets is critical for all levels in the school – from the front office, through school leaders, teachers, and students. The advice earlier in this book was to set targets at each student level and work forward, and certainly not the other way around. School-wide targets are often averaged across all students and thus leave many students behind – this is the flaw of the average. Decide on the trajectories to attain these targets, and then devise systems to evaluate the success in this trajectory. Given that there are likely to be many targets (please, other than test scores), it is also necessary to agree on the nature, quality, and acceptability of the evidence.
3. *Produce delivery plans.* Planning is everything: it is a work in progress, and it requires revision, rework, and realistic support. This is where school leadership comes to the fore.

d. Drive delivery

1. *Establish routines to drive and monitor performance.* This is where effort exceeds expectations by having all being aware of their roles in the plan to the targets, planning stock takes, and being transparent in reporting progress or otherwise in a timely manner, being aware of the challenges, and creating the trust in the culture of the methods to attain the mission.
2. *Solve problems early and rigorously.* In a sense, every student's progress is a 'problem', and if every student is allowed a major problem each year, in a typical school this means at least one major problem a day! Accepting that the problem is real for the person with the problem is important; there is then a need to reassess the priority and severity, and evaluate the criticalness for solving the problem relative to the delivery of the target.
3. *Sustain and continually build momentum.* Momentum is very much a product of the quality of the routines, the willingness to problem-solve, and the evidence of success

along the trajectory. There is a need to persist during distractions, to manage those who resist change, to challenge the status quo, and, most importantly, to celebrate success.

e. Develop, identify, and esteem success

This is the fifth step that I add to the above four.

1. Given the mission, all students should attain $d = >0.40$ in learning within a year, but there are many opportunities for failure: so often, those in schools are quick to recognize such failures and there may be 1,000 reasons why we do not succeed. The problem that I see in many schools is the opposite: so often, there are poor systems with which to identify success in attaining such targets (particularly in a timely manner). We quietly go on assuming that it is 'normal' to be above average (for example, all students $d = >0.40$) and to have success at challenging targets. Throughout the year, there needs to be systems in place to identify where each student, teacher, school leader is on his or her trajectory to the targets, and to pause to reflect, change, esteem, and problem-solve. This can help to develop a culture of improvement rather than blame, which is the true meaning of continuous learning, and to create a cohesive group of educators, students, and families committed to supporting and valuing learning in a school. Attestation, test scores, and voting by parents will not do it; evidence of systematic impact, using multiple forms of evidence, is the only way in which to identify those who are having an impact on our students.

These processes of change are powerful, but they are 'destination-free'. The destination in the current case is very much related to having major and positive impacts on student learning in our schools. The essence underlying these changes is the ways in which the participants think about their role, their impact, and their success. This is moving from the mechanisms of change towards the meaning and purpose of change.

Eight mind frames

The major argument in this book underlying powerful impacts in our schools relates to how we think! It is a set of mind frames that underpin our every action and decision in a school; it is a belief that we are evaluators, change agents, adaptive learning experts, seekers of feedback about our impact, engaged in dialogue and challenge, and developers of trust with all, and that we see opportunity in error, and are keen to spread the message about the power, fun, and impact that we have on learning.

Teachers do have 'theories of practice', which most often centre on how to manage and engage students, how to teach particular content, and how to do it all within the available time and resources. They also have theories about the context enablers and barriers to this process – such as beliefs about the kind of community that they wish to encourage in their class, the effects of family and cultural factors, and the structural needs for them to efficiently teach this content. As teachers become more experienced, these theories become more convincing to them, and sometimes changing them requires a major disruption and high levels of convincing power of the effect of alternative theories of action. Bishop (2003), in his work to change teachers to see that high expectations can

also relate to minority students, started by showing teachers students' stories of what it was like for them in these teachers' classes. To encourage teachers to adopt some of the 'theories of practice' outlined in this book requires not lecturing or hectoring them, but starting with listening to these theories of practice, and then seeing how their own theories can be modified or enhanced to consider the fundamental message about them knowing their impact – as the starting point for having theories (not the end point). In working with many teachers and school leaders, it does not take long to show them the power of starting with the evaluation questions about knowing their impact, but it requires a lot of change to sustain and embed this mind frame. As many have said: 'It was easier not to know.'

These mind frames, or ways of thinking, are identified based on the claims made in the preceding chapters. The claim is that teachers and school leaders who develop these ways of thinking are more likely to have major impacts on student learning.

Mind frame 1: Teachers/leaders believe that their fundamental task is to evaluate the effect of their teaching on students' learning and achievement

Among the most powerful of all interventions is feedback or formative evaluation – providing information to the teacher as to where he or she is going, how he or she is going there, and where he or she needs to go next. The key factor is for teachers to have mind frames in which they seek such feedback about their influences on students and thus change, enhance, or continue their teaching methods. Such a mind frame – that is, seeking evidence relating to the three feedback questions ('Where am I going?'; 'How am I going there?'; 'Where to next?') – is among the most powerful influences on student achievement that we know.

Knowing what is optimal does not always mean deciding on a teaching method, resources, sequence, and so on, and then implementing these to the best of our abilities. It does not mean a prescription of the 'seven best strategies to use', 'what works', and so on. Instead, what is optimal means altering the instruction 'on the fly' during the class, with the many students at differing stages of knowing and understanding on the basis of feedback to the teacher about the value and magnitude of their teaching decisions. Hence the importance of seeking feedback about our effects both in a formative and summative manner.

The interactions between what we do as educators and what students are doing as learners is the key: it is the interaction – and being tuned into the nature and impact of these interactions – that is critical. This means evaluating what we are doing and what the student is doing, and seeing learning through the eyes of students, as well as evaluating the effect of our actions on what the student does *and* the effect of what the student does on what we then need to do – and, together, this is the essence of excellent teaching.

The operative notion is that of 'evaluating'. Teachers need to enhance their evaluation skills about the effects that they are having on students. Only then are teachers best equipped to know what to do next to enhance students' improvement. Over a series of lessons, if the typical impact is not high (that is, at least $d = >0.40$), then change in the teaching methods is likely to be necessary. Offering 'more' is probably the worst solution; what is needed is more likely to be 'different' methods. This is a 'win–stay, lose–shift' strategy.

The key questions underlining Mind frame 1 are as follows.

- 'How do I know that this is working?'
- 'How can I compare "this" with "that"?'
- 'What is the merit and worth of this influence on learning?'
- 'What is the magnitude of the effect?'
- 'What evidence would convince me that I was wrong in using these methods and resources?'
- 'Where is the evidence that shows that this is superior to other programs?'
- 'Where have I seen this practice installed where it has produced effective results (which would convince me and my colleagues on the basis of the magnitude of the effects)?'
- 'Do I share a common conception of progress with other teachers?'

Mind frame 2: Teachers/leaders believe that success and failure in student learning is about what they, as teachers or leaders, did or did not do . . . We are change agents!

This proposition is *not* making the claim that students are not involved in the learning equation, or that all success or failure is indeed the responsibility of the teacher; rather, it is claiming that the greatest impact relates the teacher's mindset. Some of the positive beliefs that need to be fostered include the following.

- 'All students can be challenged.'
- 'It's all about strategies, never styles.'
- 'It is important to develop high expectations for all students relative to their starting point.'
- 'It is important to encourage help-seeking behaviours.'
- 'It is important to teach multiple learning strategies to all students.'
- 'It is important to develop assessment-capable students.'
- 'Developing peer interactions is powerful for improving learning.'
- 'Critique, error, and feedback are powerful opportunities for improving learning.'
- 'Developing student self-regulation and developing "students as teachers" are powerful mechanisms for improving learning.'
- 'Don't blame the kids.'
- 'Handicaps of social class and home resources are surmountable.'
- 'There is no place for deficit thinking – that is, there is no labelling of students, nor are there low expectations of students.'

Teachers need to see themselves as change agents – not as facilitators, developers, or constructivists. Their role is to change students from what they are to what we want them

to be, what we want them to know and understand – and this, of course, highlights the moral purposes of education. It is about teachers believing that achievement is changeable or enhanceable and is never immutable or fixed, that the role of a teacher is as an enabler not as a barrier, that learning is about challenge and not about breaking down material into easier chunks, and it is about teachers seeing the value of both themselves and students understanding learning intentions and success criteria.

There has been a longstanding debate between those who argue that teachers need to be facilitative and less intrusive, and those who support teachers as activators in the classroom (Taber, 2010). The answer is clear, but it seems that, every few years, we rediscover this notion (see Mayer, 2004, 2009). Alrieri, Brooks, Aldrich, and Tenenbaum (2011) conducted a meta-analysis on this question. They showed the value of directed over undirected discovery learning. From 580 effects based on 108 studies, the average effect was 0.38 in favour of the former over the latter. They then compared more specific, but explicit, methods of teaching: requiring students to generate rules, strategies, etc. ($d = 0.30$); elicited explanation requiring learners to explain their learning or target material ($d = 0.36$); scaffolding or regular feedback ($d = 0.50$). They concluded that:

> unassisted discovery generally does not benefit learning . . . . teaching practices should employ scaffolded tasks that have support in place as learners attempt to reach some objective, and/or activities that require learners to explain their own ideas. The benefits of feedback, worked examples, scaffolding, and elicited explanation can be understood to be part of a more general need for learners to be redirected . . . . unguided discovery activities were too ambiguous to allow learners to transcend the mere activity and to teach the level of constructivism intended.
>
> (Alrieri et al., 2011: 12)

The message in this book certainly supports the direct approach. Too often, the distinction is not made starkly enough, but I mince no words: teachers are change agents; they need to be activators; and they are responsible for enhancing student learning. There are many others also responsible (the student, parents, and so on), but the teacher is employed to be a change agent. As I noted in *Visible Learning*, this places a high obligation on the moral aspects of teaching – especially what is taught and knowing the effects of the teacher on what is taught. It also places an obligation on all then to esteem this expertise – in the staffroom, in the home, in the community, and in the profession.

Mind frame 3: Teachers/leaders want to talk more about the learning than the teaching

I have almost reached the point at which I lose interest in discussion about teaching – not because it is not important, but because it is often prevents important discussions about learning. So many professional development sessions are about best practice, new methods of teaching, interrogation of assessment far too late to make a difference today or tomorrow – and we seem to like these safe and non-threatening topics. Where is the debate about how we learn, evidence of students' learning in their multiple ways, how to learn differently? Can you name three competing theories of learning? To have these collegial

debates about learning and about our impact on this learning requires school leaders that are supportive of teachers being learners and evaluators. Teachers need to be adaptive learning experts, to know multiple ways of teaching and learning, to be able to coach and model different ways of learning, and to be the best error detectors in the business.

Mind frame 4: Teachers/leaders see assessment as feedback about their impact

Of all of the influences on student learning, feedback is among the top-ranked – and this is also the case for teacher learning. Teachers need feedback about their effects on each student; hence the notions of assessment as teacher feedback, teachers as evaluators, and teacher colleagues and students as peers in the feedback equation. Teachers, like students, need to debate and agree about where they are going, how they are going, and where they are going next.

Of course, the assessment is about the student, but the power of interpretation and the consequences of assessment are more in the hands of teachers. We need to move from the prepositional divide of assessment as 'assessment of' and 'assessment for' to assessment as feedback for teachers. The critical questions are as follows.

- 'Who did you teach well and who not so well?'
- 'What did you teach well and what not so well?'
- 'Where are the gaps, where are the strengths, what was achieved, and what has still to be achieved?'
- 'How do we develop a common conception of progress with the students and with all of the teachers in our school?'

Mind frame 5: Teachers/leaders engage in dialogue not monologue

While there is a need for teachers to impart information, while the lecture format is indeed efficient, and while teachers do and should know more than students, there is a major need for teachers also to *listen* to the students' learning. This listening can come from listening to their questions, their ideas, their struggles, their strategies of learning, their successes, their interaction with peers, their outputs, and their views about the teaching. The current dominance of monologue may cause less damage for the brighter students, who can engage in learning with their typically greater access to learning strategies and self-talk about the learning. Monologue is less satisfactory for the struggling, the disengaged, and the confused, and is powerful for the brighter students.

There is a need for more research about the optimal proportions of dialogue and monologue – particularly when one is preferred more than the other – and which is best for surface and deep learning. There is also a great need to find out more about the effects of the nature of the dialogue. One form of dialogue can enhance the language of a subject such that students begin to talk the language of the subject, or the language of the 'correct procedures' to use when studying the subject, or the language of more lucid explanations or justification when interacting with the subject. Clarke (2010) videoed mathematics

classes in many countries and noted marked differences in the language used in the classrooms. He concluded that:

> it is clearly the case that some mathematics teachers value the development of a spoken mathematical vocabulary and some do not. If the goal of classroom mathematical activity was fluency and accuracy in the use of written mathematics, then the teacher may give little priority to students developing any fluency in spoken mathematics. On the other hand, if the teacher subscribes to the view that student understanding resides in the capacity to justify and explain the use of mathematical procedures, in addition to technical proficiency in carrying out these procedures in solving mathematical problems, then the nurturing of student proficiency in the spoken language of mathematics will be prioritized, both for its own sake as valued skill and also because of the key role that language plays in the process whereby knowledge is constructed.
>
> (Clarke, 2010: 35)

A recent newspaper heading about my presentation on this topic read 'Researcher claims teachers should shut up' (although I liked the letter to the editor the next day headed 'Teacher claims researcher should shut up'). While the heading may have captured the spirit, the major message is more about the balance of talking and listening. What is not suggested is that teachers 'shut up' and then students engage in busy work, complete endless trials of similar tasks, fill in worksheets, or talk among themselves. There is not a lot of evidence that reducing teacher talk and increasing student talk necessarily leads to greater achievement gains (Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009). It may be that a particular type of talk is needed to promote surface and deeper comprehension; it may that a particular type of listening is needed to better understand how and whether students are learning; and it may be that a particular type of reaction to this listening (for example, using rapid formative feedback) is the essence of the power of 'shutting up'. As Carl Rogers, the famed psychotherapist, demonstrated, active listening means that we demonstrate to the other that we not only have listened, but also that we have aimed to understand and show that we have listened. Providing formative feedback helping the student to know what to do next is among the most powerful ways in which to demonstrate to that student that we have listened.

Mind frame 6: Teachers/leaders enjoy the challenge and never retreat to 'doing their best'

Every day in most class's life is a challenge – and we need to embrace this challenge and make it the challenge that we want it to be. The art of teaching is that what is challenging to one student may not be to another; hence the constant attention to the individual differences and seeking the commonality so that peers can work together with the teacher to make the difference. The teachers' role is not to decide on the challenge and then 'break it down' into manageable bits so that it is easier for students; instead, his or her role is to decide on how to engage students in the challenge of the learning. This is why learning intentions and success criteria have been emphasized so strongly, because when students understand these, they can see the purposes of the challenges that are so critical to success in learning.

Mind frame 7: Teachers/leaders believe that it is their role to develop positive relationships in classrooms/staffrooms

So often, we are concerned about the classroom climate, but forget the purpose of warm, trustworthy, empathetic climates. The primary purpose is to allow students to feel okay about making mistakes and not knowing, and to establish a climate in which we welcome error as opportunities. Learning thrives on error: a fundamental role for teachers is to seek out misconceptions, misunderstandings, and lack of knowledge. While teachers may have warm interpersonal interactions, this is not the point. The point is: do the students believe that the climate of the class is fair, empathetic, and trustworthy? Can students readily indicate that they do not know, do not understand – without getting snide comments, looks, and sneers from peers? The power of peers is pervasive, and much about creating the right classroom climate is about creating a safe harbour for welcoming error and thence learning; in the same way, it is critical for school leaders to create a safe staffroom climate, so that all teachers can talk about teaching and their impact on student learning.

Mind frame 8: Teachers/leaders inform all about the language of learning

In many aspects of daily interactions, we take on many roles that are formally undertaken by professionals. We are travel agents, bank tellers, store assistants, bloggers of news, and so on. Such co-production is becoming more common, but it has hardy dented schools. We still see parents as those who receive biannual reports, supervise homework (or not), provide accommodation, and feed and look after students in the other eight hours of their waking lives.

While all parents want to find ways in which to help to co-educate their children, not all parents know how to do this. A major barrier for these latter parents is that they are often not familiar with the language of learning and schools. For many of them, school was not always the most pleasant experience. In our multi-year evaluation of five of the schools in the lowest socio-economic area in New Zealand, we found many positive consequences when teaching parents the language of schooling (Clinton, Hattie, & Dixon, 2007). The Flaxmere Project involved a series of innovations related to improving home–school relations, and included giving a sample of families computers and employing former teachers as 'home–school liaison persons' to help the families to learn how to use the computers. The evaluation demonstrated that it was these former teachers who were informing the parents about the language of schooling that made big differences – that is, the parents learned the language about the nature of learning in today's classrooms, learned how to help their children to attend and engage in learning, and learned how to speak with teachers and school personnel. Parents who co-understand the importance of deliberate practice, concentration, the difference between surface and deep knowing, and the nature of the learning intentions and success criteria are more able to have dialogue with their children. Teaching parents the language of learning led to enhanced engagement by students in their schooling experiences, improvements in reading achievement, greater skills and jobs for the parents, and higher expectations, higher satisfaction, and higher endorsement of the local schools and the Flaxmere community (the effect sizes ranged from $d = 0.30$ to $d = 0.60$ and occasionally were much higher across many outcomes).

When this co-learning occurs, then more evidence about the impact on learning can be understood and potentially acted upon by all. The involvement in homework, in esteeming and promoting schools based on evidence of impact on progress of their children, and in providing support and opportunities to engage in worthwhile challenges in the home can all assist in progressing students to become critical evaluators and learned citizens.

These eight mind frames are the essence of creating schools that can claim they have 'visible learning inside'. They are the core notions on which schools need to focus if there is to be success at having major impacts on all students in their learning and achievement. It is a way of thinking that makes the difference and we need to turn away from finding the 'thing' – the program, the resource, the teaching method, or the structure. When we become the 'evaluators of our impact', then we have the basis for the greatest single improvement in our schools.

Where to start this change process?

In the above three sections, the agents, processes, and purposes for change have been outlined, but the most common question that I am asked is: 'Where do I start?' The starting point is evaluating whether you and your school are 'ready' for change in the directions outlined in this book. I do not suggest running sessions lecturing staff about what is going to happen – because this ignores the mind frames that teachers currently have about the success of their own teaching. War stories are so often the currency of defence. Instead, I suggest inviting teachers to evaluate their own mind frames and to see whether they are shared across other teachers. For example, it is worthwhile starting by asking about teachers' and students' conceptions of feedback (see Exercise 2 in Chapter 8); it is also worth using currently available standardized assessment to calculate effect sizes on the school, each class, and each student – and asking about the value of the interpretations of these effect sizes (see Chapter 6 and Appendix E).

This introduction to 'visible learning inside' takes time, cannot be rushed, and requires that much groundwork be done before you can drive delivery. The mind frames of the senior management are critical, because if there is any sense of accountability, it is highly likely to fail; they need to be learning leaders. This is a developmental, shared concept of excellence and impact, which needs to involve all staff in shared success of the effects on all students in the school. The process must be seen as supportive of teachers, provide opportunities for teachers to discuss their beliefs and concerns about the nature of the evidence and the meaning of the ways in which the school decides to 'know its impact,' and see the value and esteem that comes from engaging in this process.

One of the concerns that will soon become evident as a school starts this journey is that much of the data that drowns most schools may not be of much use – because so often it is administered too late, because we collected it these past years, and because it is too broad (a mile wide and an inch deep). It is so often of little use for formative interpretations. A place to start is to consider the nature and quality of the learning intentions and success criteria, and how these relate to the different levels of surface and deep understanding desired. The question is then: how would you be convinced that the student has attained these success criteria relative to where he or she began at the start of the lessons? Simply creating the end-of-lesson assessments and administering them (or a sample of them) at the start and again at the end can provide a worthwhile basis for beginning to estimate the effects.

These are suggested starting points – because these can help you to understand the delivery challenge and help you to decide on plans for delivery.

Conclusions

Once again, I am not claiming that it is teachers that make the difference. This mantra ignores that there are as many teachers who have impact on learning below as above the mean of $d = 0.4$. As I wrote in *Visible Learning*, this mantra:

> has become a cliché that masks the fact that the greatest source of variance in our system relates to teachers – they can vary in many ways. Not all teachers are effective, not all teachers are experts, and not all teachers have powerful effects on students.
>
> (Hattie, 2009: 22)

That we do have so many teachers who can regularly attain above average impact and attain above the typical growth within their classrooms is to be acknowledged, esteemed, and should be the essence of teaching as a profession. Allowing the notion that 'everything goes' de-professionalizes teaching: if anyone with a pulse can teach and be allowed to show success if they exceed the typical low threshold of demonstrating $d = > 0$, then this means that there is no practice of teaching, there is no professional set of skills and understandings that allows more positive impacts (for example, $d = > 0.40$), and that we might as well open the classroom doors to anybody. Sometimes, this seems already to be occurring and the argument in this book is that this is detrimental to the enormous number of teachers who are systematically having high positive impacts on student learning.

As noted earlier, this book is not about a new program that entails fundamental change in what most schools are doing; it is about a frame of reference for thinking about the effects or consequences of what occurs in a school. It is asking for more evaluation by all (teachers, leaders, students) of the effects that the key personnel are having in schools. It is not about asking for more measurement, but about asking for more evaluation of the effects of this measurement (and if the measurement is not having much evaluation value, then maybe it should be reduced, modified, or dropped). The key factor is the mind frames that teachers and school leaders have about the quality of evidence of their impact, their understandings about the nature of this impact, and the way in which they decide on consequences from this evidence of impact.

As Michael Fullan (2012) has so long argued, teachers are not unfamiliar with change – change is their life to the point at which many are inured to it – but so often schools are asked to change programs, to introduce new resources, or to try a new assessment scheme. This is not the change requested in this book; rather, it is asking for a change in the way in which we think about our role, and that we then engender high levels of collaboration, confidence, and commitment to evaluating our effect on students. School leaders and systems must take the lead in this evaluation process, and create a safe and rewarding environment in which the evaluation process can occur.

The major message in this book is that enhancing teacher quality is one of the keys – and the way in which to achieve this is through ensuring that every teacher in the school has the mind frame that leads to the greatest positive effect on student learning and achievement. This is not going to happen with short-term interventions, by naming and

blaming, by more testing, by more accountability, by new curricula, or by new resources. It is going to happen through enacting deliberate policies to support schools with the resources to know about their impact, and esteem them when they (the schools) demonstrate their impact on all of their students.

We need policies that make the school the 'unit of evaluation' and we need to help each school to get its staff to work collaboratively on determining the key outcomes that it wishes to evaluate. We need to help schools to collect dependable evidence of the current levels and the desired levels of achievement for each student, and, critically, to monitor the progression from the current to desired levels. It then requires that teachers work together with all students in a school to attend to this monitoring – what to change, what to keep, what to share, what to put in place to give second and third chances, who to advance, and how to constantly challenge, engage, and give confidence to students that they can do better, do more, and can attain the goals. Most importantly, there needs to be recognition and esteem when these progression targets are met, and such success needs to be made public to the school community.

Further, we need to create space in which this can happen. It is not about asking for more professional learning circles or communities of practice, because so often these are dominated by matters that do not make the difference – that is, they are but means. What is needed is more space for teachers to interpret the evidence about their effect on each student. This may require some major rethinking of teachers' work. For example, in much of the Western world, teachers spend about 1,100 hours a year in front of students. This is 36 per cent more time in front of classes when compared to 30 nations in the Organisation for Economic Co-operation and Development (OECD) review: in Japan, for example, they spend about 500 hours in front of students – and the school is structured differently to allow this to happen; the mind frame in Japan is different. Darling-Hammond (2010: 193) argued that the countries that have made the greatest progress in achievement allow teachers with:

> 15 to 25 hours a week . . . to plan cooperatively and engage in analyses of student learning, lesson study, action research, and observation of one another's classrooms that help them continually improve their practice.

I want them to spend such time working together to plan and critique lessons, interpret and deliberate in light of evidence about their impact on each student's learning, in each other's classes observing student learning, and continually evaluating the evidence about how 'we as teachers in this school' can optimize worthwhile outcomes for all students – and share the errors, the enjoyments, the successes about the impact. As a profession, we are excellent at critique; let's use this critique to evaluate whether we are having sufficiently high impacts on all students, whether the nature of how we impact on this learning can be made more effective and efficient, and to make decisions about what we do based on this positive impact on learning – together.

So often, in schools, when time is created for teachers to be out of their classes, teachers want to spend the time marking, preparing, and seeking resources. These are not unimportant activities – but what is asked for here is a culture in which teachers spend more time *together* pre-planning and critiquing this pre-planning, and working in teacher groups to interpret the evidence about their effect on students. What is needed is an

attention to both the short-term and the longer-term effects that we have on students, a move from seeing the effect of one teacher on a student in one year towards seeing the effect of many teachers on students over many years (which requires more longitudinal interpretations), a move from teachers seeing their professionalisms in terms of autonomy (which usually means 'Just leave me alone to teach as I wish') towards seeing professionalism in terms of the positive effects that so many teachers already have on so many students. We need to replace 'presentism', conservatism, and individualism with the longer-term school effects of those teachers who are 'evidence-informed' and who take collective responsibility for the success of our schools.

What is asked is not a restructuring, but a recapturing, of schools to optimize and esteem the positive impacts that all can have on student learning. It is not a 'one size fits all' solution; there are many evaluation processes and models, and it takes time and a climate of safety to implement and nurture these changes. It needs attention to and an esteeming of teacher judgements, because it is these judgements that the evaluation process is aiming to influence. It is using the preponderance of evidence to make professional judgements and to see, as far as possible, beyond reasonable doubt that all in a school are having a sufficiently high impact on all of the students. It also means that there is a powerful criterion of success for all of our teachers and school leaders – that is, that success is learning from evaluating our effect. You can all do this . . . You can focus . . . You can deeply implement . . . You can

Know thy impact

Exercises

1. Administer the Checklist in Appendix A to all in the school and then use it as the basis for discussion about the future goals for the school, and to monitor your progress towards becoming a 'visible learning inside' school.
2. Administer the following personal health check to yourself. Share the results with your coach.

YOUR PERSONAL HEALTH CHECK FOR VISIBLE LEARNING

1. I am actively engaged in, and passionate about teaching and learning.
2. I provide students with multiple opportunities for learning based on surface and deep thinking.
3. I know the learning intentions and success criteria of my lessons, and I share these with students.
4. I am open to learning and actively learn myself.
5. I have a warm and caring classroom climate in which errors are welcome.
6. I seek regular feedback from my students.
7. My students are actively involved in knowing about their learning (that is, they are assessment-capable).
8. I can identify progression in learning across multiple curricular levels in my student work and activities.
9. I have a wide range of teaching strategies in my day-to-day teaching repertoire.
10. I use evidence of learning to plan the next learning steps with students.

3. Consider the following ten questions that I have used to help parents and students to identify great schools. Consider them in relation to your own school.
   a. In the playground, do the students look each other in the eye? Or do they avoid each other or sit in cliques?
   b. Diversity breeds fresh thinking. Can the parents and students show you genuine evidence that it is encouraged?
   c. How do parents and the students measure success? By the achievements of the few or of the many?
   d. Ask to meet the best teacher. If the parents and students tell you that they're all good, they're not thinking clearly.
   e. To whom do students turn to? Every student should have someone who knows how they are doing and who will spend time with them.
   f. Do new students make friends in the first month? It is a critical indicator for success: how does the school make sure that it happens with all students?
   g. Do students like mistakes? Learning starts from not knowing, so do they embrace that? Do students feel confident enough to talk about errors or not knowing something?
   h. Are students 'assessment-capable' in this school? Can they talk about how well they are doing, and where they are going next?
   i. Does the school use acceleration for all? Are students enabled to learn at different speeds?
   j. What feedback do students get? Ask one: 'What did you get told about your work today?'
4. Look at the following books and see how they complement the arguments in this one. (Many provide more specific examples of the concepts developed in these pages.)

Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis iteration.* Wellington, New Zealand: Ministry of Education, available online at http://www.educationcounts.govt.nz/publications/series/2515/5959

Ayers, W. (2010). *To teach: The journey of a teacher* (3rd ed.). New York: Teachers College Press.

Clarke, S. (2011). *Active learning through formative assessment.* London: Hodder.

Dinham, S. (2008). *How to get your school moving and improving.* Camberwell: ACER Press.

DuFour, R., & Marzano, R.J. (2011). *Leaders of learning: How district, school, and classroom leaders improve student achievement.* Bloomington, IN: Solution Tree Press.

Higgins, S., Kokotsaki, D., & Coe, R. (2011). *Toolkit of strategies to improve learning: Summary for schools spending the pupil premium.* London: Sutton Trust, available at: http://www.suttontrust.com/research/toolkit-of-strategies-to-improve-learning/ (retrieved 26 May 2011).

Petty, G. (2009a) *Evidence based teaching: A practical approach* (2nd ed.). Cheltenham: Nelson Thornes.

— (2009b) *Teaching today: A practical guide* (4th ed.). Cheltenham: Nelson Thornes.

Robinson, V.M.J. (2011). *Student-centred leadership.* San Francisco, CA: Jossey- Bass.

Steele, C.F. (2009). *The inspired teacher: How to know one, grow one, or be one.* Alexandria, VA: ASCD.

Willingham, D.T. (2009). *Why don't students like school? A cognitive scientist answers questions about how the mind works and what it means for the classroom.* San Francisco, CA: John Wiley & Sons.

References

Absolum, M., Flockton, L., Hattie, J.A.C., Hipkins, R., & Reid, I. (2009). *Directions for a in New Zealand: Developing students' assessment capabilities.* Wellington: Ministry of Ed available online at http://assessment.tki.org.nz/Assessment-in-the-classroom/Directi assessment-in-New-Zealand-DANZ-report

Adams, G.L., & Engelmann, S. (1996). *Research on direct instruction: 20 years beyond DISTAR* WA: Educational Achievement Systems.

Alexander, P.A. (2006). *Psychology in learning and instruction.* Columbus, OH: Prentice-H

Alexander, R.J. (2008). *Towards dialogic teaching: Rethinking classroom talk* (4th ed.). York: D

Alrieri, L., Brooks, P.J., Aldrich, N.J., & Tenenbaum, H.R. (2011). Does discover instruction enhance learning? *Journal of Educational Psychology, 103*(1), 1–18.

Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis* Wellington: Ministry of Education, available online at http://www.educationcounts.g publications/series/2515/5959

Alton-Lee, A.G., & Nuthall, G.A. (1990). Pupil experiences and pupil learning in the elen classroom: An illustration of a generative methodology. *Teaching and Teacher Educa International Journal of Research and Studies, 6*(1), 27–46.

Amabile, T.S., & Kramer, S.J. (2011). The power of small wins. *Harvard Business Review, 89*(5)

Anderman, L.H., & Anderman, E.M. (1999). Social predictors of changes in students' achie goal orientations. *Contemporary Educational Psychology, 24*(1), 21–37.

Anderson, K. (2010). *Data team success stories, Vol. 1.* Englewood, CO: The Leadersl Learning Center.

Anderson, K. (2011). *Real-time decisions: Educators using formative assessment to change lit* Englewood, CO: The Leadership and Learning Center.

Andersson, H., & Bergman, L.R. (2011). The role of task persistence in young adolesce successful educational and occupational attainment in middle adulthood. *Develo Psychology, 47*(4), 950–60.

Angus, M., McDonald, T., Ormond, C., Rybarcyk, R., Taylor, A., & Winterton, A. *Trajectories for classroom behaviour and academic progress.* Perth: Edith Cowan University, a online at http://www.pipelineproject.org.au/Results

Aronson, E. (2008). *Jigsaw classroom,* available online at http://www.jigsaw.net

Au, R., Watkins, D.W., Hattie, J.A.C., & Alexander, P. (2009). Reformulating the depression of learned hopelessness for academic outcomes. *Educational Research Review, 4,* 103–1

Ausubel, D.P. (1968). *Educational psychology: A cognitive view.* New York: Holt, Rineha Winston.

Ayers, W. (2010) *To teach: The journey of a teacher* (3rd ed.). New York: Teachers College P